

Recent Progress in Deep Space Communications

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Abstract

Recent progress in deep space communications at the Jet Propulsion Laboratory is described. This includes the results of a recent optical communications experiment with the Galileo spacecraft which is on its way to Jupiter. This set a record for optical space communication distance of approximately six million kilometers. This paper also describes the recent development of a new data compression scheme which is to be uploaded to the Galileo spacecraft, when it arrives at Jupiter in 1995, to enhance communications capability by a factor of 10. Other recent accomplishments include the completion of the high resolution spectrometer for the High Resolution Microwave Survey (HRMS) to search for intelligent signals from other worlds, and the ground-based radar imaging of an Earth approaching asteroid, Toutatis, at close range by NASA/JPL's Deep Space Network.

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